Lenco

Hi-Fi Record Player
L 78

Operating instructions

Features

The Lenco L 78 Record player is a precision instrument of true Hi-Fi quality which will satisfy even the most demanding music lover.
The instrument can be used for stereo as well as monophonic listening.
The usual speeds of 16²/₃, 33¹/₃, 45 and 78 RPM can be pre-set in click-stops and the speed can also be varied continuously from 30—86 RPM.
The light tonearm of the L 78 is a first-class example of fine mechanical precision, and guarantees clear, undistorted sound reproduction, with the greatest possible protection for your records. The tonearm is lowered onto the record by a hydraulically damped lowering device — thereby eliminating the possibility of record or needles being damaged whilst putting the tonearm onto the record.
The unit is SEV, DEMKO, NEMKO, SEMKO and CSA tested and approved.

Technical Description

The very silent 4-pole motor (44) is spring mounted onto a rigid steel baseplate. The dynamically balanced turntable is made of die-cast zinc, and weighs 4 kg.
The power is transmitted from the conical motor shaft (43) to the turntable by a rubber covered idler wheel (41). The speed is changed by moving the idler wheel on the motor shaft.
The miniature ball-bearings fitted into the tonearm allow for a free sideways movement, and the knife-edge bearing keeps friction to a minimum.
An adjustable sliding weight (5) enables one to set the stylus pressure exactly to suit the cartridge being used. An automatic brake (23) comes into operation when the turntable is switched off.
All tonearms can be supplied with the anti-skating device (3, 28, 29).
Every L 78 is supplied with a centre piece for records with a large centre hole, a stroboscope disc for exact setting of speed, a stylus-adjusting gauge for accurate setting of stylus overhang, a set of shock-absorbing mounting supports and a cut out template (only required for chassis model).

Unpacking the L 78

When unpacking check for possible damage. The L 78 is toroughly checked and tested before leaving the factory. Any damage which may have been caused during transport should be reported immediately.
In this connection we would like to point out that the upper part of the knife-edge balance has been put into the lower part, i. e. it is held there only by the weight of the arm. The resulting movement which can be felt just above pedestal spindle when lifting the arm, is a normal and necessary feature of this type of bearing and should not be mistaken for a fault or damage.

Preparation for Use

The L 78 is available on a wooden base, or as a build-in model. To avoid damage of the turntable spindle during transportation, the turntable is packed separately in a cardboard sleeve.
Models mounted on a wooden base are delivered fully assembled and can therefore be operated without any difficulty. The build-in model must be assembled on the spot, and the instructions on the cut out template should be carefully followed. On all models the spring-mounted motor (44) has been secured for transit. This has been done by means of two red securing screws (18) on the baseplate under the turntable and these should be losened until the motor is freely sprung. The L 78 is designed for use with 220 V 50 Hz. A C mains but can be supplied with a switchable motor for use on 115, 145 and 225 V mains.
To ensure perfect running, important bearing and driving points should be cleaned if necessary before putting on the turntable. The important points are: Turntable spindle, underside of turntable, motor shaft and the rubber surface of the idler wheel (41).
A clean, dry, non-fluffy cloth should be used for cleaning. Only if oil or grease spots are present should the cloth be sparingly sprinkled with methylated spirits or carbon tetrachloride. (Benzine must not be used.) The turntable should now be placed on the spindle and the rubber mat on the turntable. Push the large, counterweight (1) on to the rear end (30) of the pick-up.

Interchangeable Plug-in Heads

The L 78 is usually supplied with an empty plug-in head, so that each user may select his own pick-up cartridge. The empty plug-in head (11) is complete with mounting screws for the popular, internationally standard cartridges. If various cartridges are

selected (e. g. to play older 78 rpm shellac records), we suggest that a separate plug-in head is purchased for each one to facilitate the change from one cartridge to another.

Assembling of the Cartridge into the Plug-in Head

The cartridge should be mounted onto the mounting plate with the assembly material provided.
The plug-in head should then be put onto the tonearm and secured by knurled ring (10).
Place the semi-circular cut out in the template round the pedestal of the pick-up arm and the hole ‚A' over the centre spindle of the turntable.
Withdraw the tonearm from the securing clip (9) push it towards the centre of the turntable and lay it gently on the cardboard.
Loosen screw (14) on pick-up the head (11). Slide the small mounting plate with the cartridge in the plug-in head, until the point of the needle is directly on the black line of the setting gauge, tighten the screw (14).
Remove plug-in head from tonearm and connect pick-up leads to cartridge.

Right channel:	R	= red
Right earth channel:	GR	= green
Left channel:	L	= white
Left earth channel:	GL	= blue

Put the plug-in head onto the tonearm again and secure with ring (10).

Mounting Material

2 screws 0.118 inches long
2 screws 0.314 inches long
2 screws 0.374 inches long
2 screws 0.5 inches long
2 distances bushes 0.137 inches long
2 mounting screws

Setting of Stylus Pressure

Setting of the stylus pressure is achieved by means of the two weights (1, 5) at the rear end of the tonearm. The large weight (1) is used to balance out the tonearm, whilst the small weight (5) is used to set the stylus pressure.

1. Place the small weight right at the back of the outrider.
2. Balance out the tonearm by moving the large weight (1) along the rear end of the arm until the arm floats parallel to the record.
3. The recommended stylus pressure for the particular cartridge being used is then set with the small weight (5). Stylus pressure is increased by moving the weight forward from its null point at the end of the outrider. Each notch on the outrider represents 0.5 P. (P = pond which is equivalent to grams). In order to minimise distortion we suggest that too low stylus pressures be avoided. We recommend that the stylus pressure be set to about 20 % below the maximum pressure advised by the manufacturer of the particular cartridge being used. Extremely low stylus pressures should also be avoided in order to reduce record wear, as such low pressures tend to cause the stylus to rattle in the record groove, thus causing unnecessary record wear.

Table 1 of this instruction booklet contains details of the best stylus pressures and details of the stylus dimensions of a range of pick-up cartridges.

To set the Arm Lifting Device

1. Place a record onto the turntable.
2. Move the tonearm gently by hand until the needle of the cartridge is just above the first groove of the record.
3. Move the arm-lifting device (8) forward.
4. Turn screw (25) on arm-lifting device until the distance between it and the rubber nipple on the tonearm is about 2 mm.
5. Place the pick-up arm on to the pick-up rest (9). The needle of the cartridge must not touch the On/Off switch (12). If necessary adjust the height of the pick-up rest by loosening the screw in the bush at its base.

Electrical Connection

The shielded pick-up cable (37) is provided with a standard plug which can be connected to a loudspeaker or radio. This connection is indicated as «GRAMMO», «TA», «PICK-UK» or «Q» on the radio. Later models of amplifiers or radios of European origin have been fitted with a standard socket which fits the L 78. To connect to other or older models with different sockets a shielded intermediate cable should be used. When the unit has been connected (38) to the electric mains it is ready for use.

Anti-Skating Device

Modern pick-up design for geometrical reasons results in a force being imparted on to the stylus of the pick-up cartridge by the record, which pulls it towards the centre of the record. This force is called skating force. Its effect, especially with low stylus pressures, is to cause the stylus to jump several grooves when the arm is set on to the record. The different pressures on the two sides of the groove caused by the skating force also introduce a certain amount of distortion. This distortion, as well as the jumping of the stylus, can be avoided when the skating force is compensated for. For this reason an anti-skating device is supplied with the L 78 Arm.

Heavy Type. Assembly of the anti-skating device on tonearm:

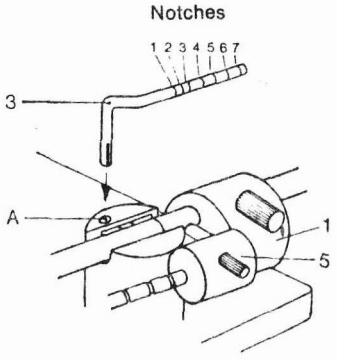


Fig. 1

Press bent steel rod (3) in hole «A» on top of tonearm.

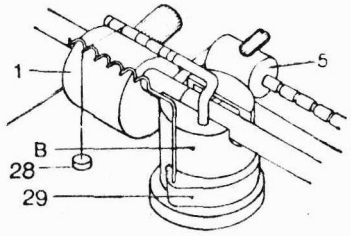


Fig. 2

Push semi-circular clamp (29) on tonearm support «B» as per drawing. The pip on the semi-circular clamp must locate into the hole on the tonearm support.

Setting of the Anti-Skating Device

Before setting the anti-skating device, check that the arm has been correctly set as described earlier. Setting of the correct anti-skating force depends on two factors, namely

a) the stylus pressure,
b) the tip radius of the stylus of the cartridge being used.

Two separate anti-skating weights are supplied with the L 78, namely a 1 g and a 4 g weight. A list of settings for all stylus pressures and tip radii is shown in Table 2 on the last page.

Example

To set the anti-skating force for a cartridge for which the recommended stylus pressure is 1.5 pond, and of which the stylus has a tip radius of 18 mu. (.0007"), Table 2 shows that for a stylus pressure of 1.5 pond and stylus tip radius of .0007" the 1 g weight should be used on Notch 6. Therefore hang the 1 g weight (28) over Notch 6 passing the thread over the adjacent hollow in the cork-screw (29) so that it hangs freely.

Cartridge	Stylus tip radius µ	Stylus pressure p (g)	Anti-skating bias	
			with weight	notch
ADC 220 (rot)	18	3	4 g	4
ADC 990 X E	ellipt.	1,5	4 g	2
Shure M 75 MB II	15	2	4 g	2
Pickering AME 3	ellipt.	1,5	4 g	2
Goldring 800	12	3	4 g	5
Lenco M 94	12	2,5	4 g	4

Playing of Records

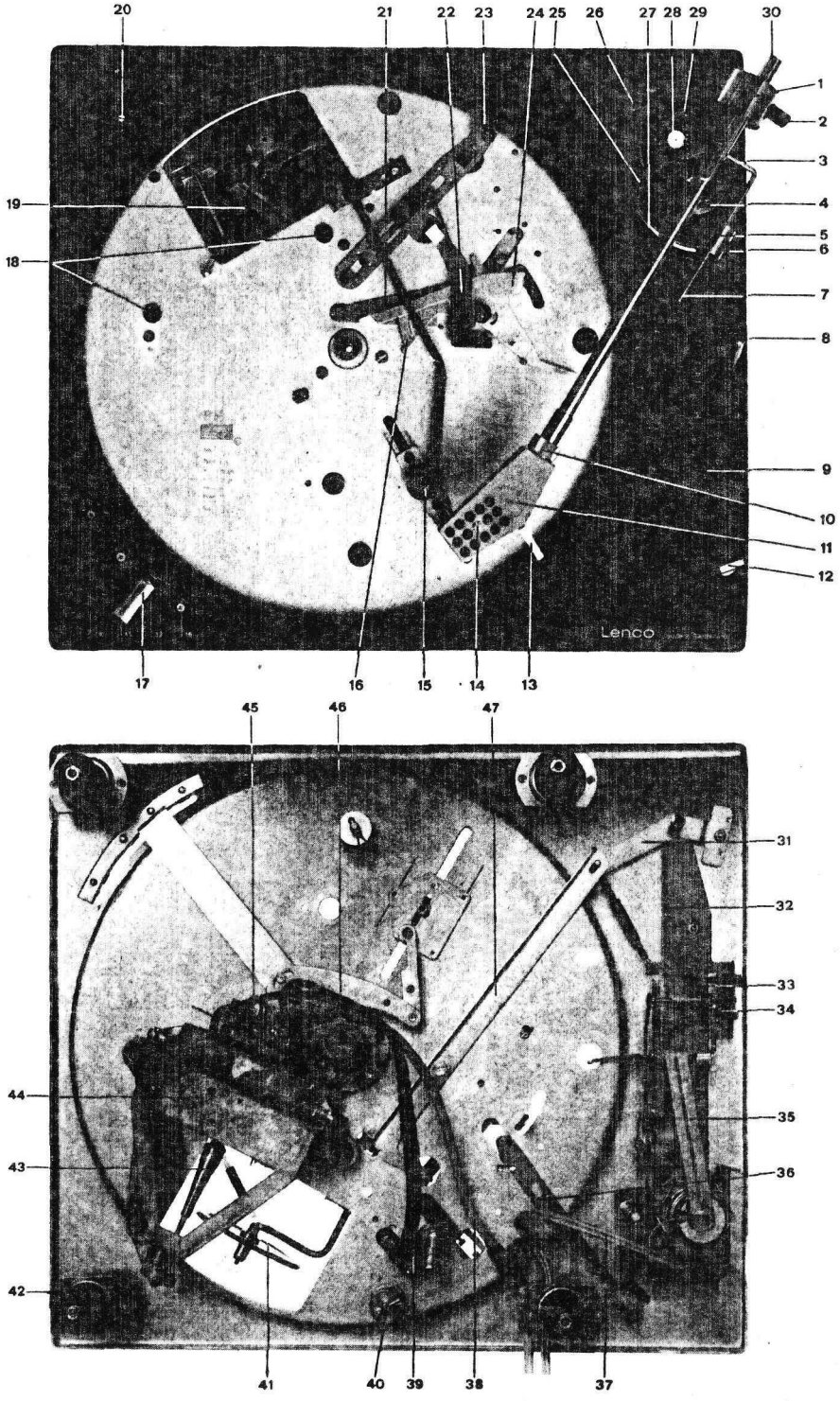
1. Set the speed change lever to the desired speed and check that it is properly engaged. Every long playing record has its speed 33⅓ or 45 clearly shown.
2. Move the ON/OFF knob (12) from the OFF position to the ON position and the turntable will start to revolve.
3. Place the pick-up arm on to the lifting arm so that the stylus point is above the run-in groove of the record.
4. Move the arm lift lever (8) forwards and the pick-up arm will automatically be lowered on to the record. In order to play records with large centre hole, use the adaptor supplied for the purpose.
5. The turntable L 78 has an automatic stop combined with an automatic lift of the pick-up at the end of the record, as long as the knob at the rear adjacent to the pick-up pedestal is set to 'automatic'.
6. If this automatic facility is not required, such as for playing language courses, set the knob to 'MAN' (manual). At the end of the record, move the arm lift lever (8) backwards and the pick-up will lift off the record. Turn the ON/OFF knob (12) from ON to OFF, and the unit will be switched off.
   Replace the pick-up arm on the pick-up rest. Should you wish to interrupt the record during playing, proceed as described in 6 above.

Checking and Adjusting the Turntable Speed

1. Place the stroboscope (round aluminium disc with three rings of dark and light stripes), that is provided with each unit, on the turntable.
2. Start the motor and illuminate the stroboscope with a light from a lamp connected to the mains. It is suggested that the room be darkened to facilitate the setting. If the speed setting of the speed control lever is correct, then all the dark lines on the ring for the corresponding speed on the stroboscope will appear to stand still. If however they move, then it is a sign that the speed setting has altered. The speed can easily be corrected by lifting the speed control lever out of its catch and moving it slightly to either right or left. When the speed is correct the stripes on the stroboscope will appear to stand still. If an intentional deviation from the pre-set speed is required (e. g. if a musical instrument is being played and the pitch of the record is to be adjusted to that of the instrument), then the speed can be altered in the same way. If the speed is to be reset, i. e. a re-adjustment of the catch for the corresponding speed is required, then the following procedure should be adopted:
   a) Loosen slightly (not more than two turns) the screw at the side of the corresponding catch.
   b) Set the speed change lever in the catch and adjust the speed until the correct speed is reached.
   c) Carefully lift the speed change lever out of the catch without altering the position of the catch, and re-tighten the screw.

Maintenance of Your Record Player

The bearings built into the unit are self-lubricating and require no further attention.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1 Gegengewicht
2 Schraube für Gegengewicht
3 Bügel für Antiskating
4 Flansch
5 Gewicht für Auflagedruck
6 Schraube für Auflagegewicht
7 Skala für Auflagedruck
8 Armlifthebel
9 Tonarmstütze
10 Rändelmutter
11 Ansteckkopf
12 Schalter Ein—Aus
13 Griff zu Ansteckkopf
14 Befestigungsschraube für Montageplättchen
15 Tourenzahlgestänge
16 Führungshebel
17 Tourenzahlregulierhebel
18 Motor-Transportsicherungsschrauben
19 Zwischenradfeder
20 Blindschraube (LENCOCLEAN)
21 Sperrhebel
22 Halter mit Blattfeder
23 Schieber mit Bremsgummi
24 Schalthebel zu Abstellautomatik
25 Rändelschraube zum Einstellen des Armhebers
26 Arretierknopf für Umstellung manual—automatic
27 Armheber
28 Antiskatinggewicht
29 Halter für Antiskating
30 Federnde Führungsachse
31 Kipphebel zu Ein—Aus-Schalter
32 Support komplett
33 Armhebekurve
34 Kipphebel für Armheber
35 Pick-up-Hebel
36 Arretierhebel
37 Tonarmkabel
38 Netzkabel
39 Netzschalter
40 Transportsicherung
41 Zwischenrad
42 Viskositätsgedämpfte Federaufhängung
43 Konische Motorwelle
44 Motor
45 Spannungswähler
46 Tellerachslager
47 Schaltstange zu Ein—Aus-Schalter

1 Contrepoids
2 Vis pour contrepoids
3 Support pour anti-skating
4 Collier
5 Poids pour le réglage de la force d'appui
6 Vis pour le poids pour réglage de la force d'apui
7 Bras gradué pour la force d'appui
8 Levier du lève-bras
9 Support du bras
10 Collier de fixation de la coquille
11 Coquille amovible
12 Manette de mise en marche
13 Manette de la coquille
14 Vis de montage pour la plaquette de la coquille
15 Coulisseau du changement de la vitesse
16 Barre de guidage
17 Levier de changement de vitesse
18 Vis de sécurité
19 Essort
20 Ecrou borgne pour LENCOCLEAN
21 Levier de bloquage
22 Support avec ressort à lames
23 Verrou avec suppresseuse gommée
24 Levier d'arrêt automatique
25 Molette pour le réglage du lève-bras
26 Manette pour le changement manuel-automatique
27 Lève-bras
28 Poids de compensation
29 Support d'anti-skating
30 Axe guide à ressort de torsion
31 Culbuteur pour interrupteur ON/OFF
32 Support complet
33 Mécanisme du lève-bras
34 Culbuteur pour lève-bras
35 Levier
36 Levier d'arrêt
37 Câble du pick-up
38 Cordon secteur
39 Interrupteur réseau
40 Sécurité de transport
41 Poulie intermédiaire
42 Ressorts de suspension à amortissement visquex
43 Axe conique du moteur
44 Moteur
45 Changement de tension
46 Roulement d'axe du plateau
47 Levier pour interrupteur ON/OFF

1 Counterweight
2 Screw for counterweight
3 Steel for antiskating
4 Pedestal base
5 Weight for adjustable stylus pressure
6 Screw for pressure weight
7 Calibrated stylus pressure bar
8 Arm-lifting lever
9 Pick-up rest
10 Knurled ring to secure plug-in head
11 Plug-in head
12 ON/OFF switch
13 Handle of plug-in head
14 Fixing screw for adjustable cartridge mounting platform
15 Speed regulating mecanism
16 Guide-lever
17 Speed regulating lever
18 Transit safety screws
19 Idler wheel spring
20 Hole for LENCOCLEAN spindle
21 Blocking lever
22 Clamp with laminated spring
23 Slider with suppressor rubbe
24 Switch-lever for shut-off switch
25 Knurled screw for lowering arm
26 To stop knob to switch over MANUAL - AUTOMATIC
27 Pick-up lowering arm
28 Antiskating weight
29 Support for antiskating device
30 Rear end of the pick-up
31 Toggle for ON/OFF switch
32 Support complet
33 Hydraulic mecanism for lowering arm
34 Toggle for lowering arm
35 Pick-up lowering
36 To stop lever
37 Pick-up cable
38 Mains cable
39 Mains switch
40 Transit safety
41 Idler Wheel
42 Viscously damped spring mounting
43 Conical motor shaft
44 Motor
45 Voltage selector
46 Turntable spindle bearing
47 Switch road for ON/OFF switch

1 Motvikt
2 Skruv för motvikt
3 Bygel för antiskating
4 Fläns
5 Vikt för nåltryck
6 Skruv för nåltrycksvikt
7 Skala för nåltryck
8 Spak för tonarmslyft
9 Tonarmstöd
10 Kantmutter
11 Pickuphus
12 Strömbrytare till-från
13 Handtag för pickuphus
14 Fästskruv för montageplatta
15 Varvtalsförare
16 Överföringsarm
17 Varvtalsreglage
18 Motor-transportsäkringsskruvar
19 Mellanhjulsfjäder
20 Blindskruv (för LENCOCLEAN)
21 Spärrarm
22 Hållare med bladfjäder
23 Förskjutningsarm med bromsgummi
24 Brytararm till stoppautomatik
25 Reglerskruv för inställning av armlyft
26 Omkopplare för manuell-automatstopp